

Working Paper 98-04
Economic History and Institutions Series 02
January 1998

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THE "RABASSA MORTA" IN CATALAN VITICULTURE: THE RISE AND
DECLINE OF A LONG TERM SHARECROPPING CONTRACT, 1670S-1920S.

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Abstract

We examine the working of a sharecropping contract, the *rabassa morta*. We argue, in line with much of recent theoretical work, that the contract was originally efficient, because it reduced problems of moral hazard and opportunistic behaviour, and provided sharecroppers with sufficient incentives to respond to market opportunities, for over a couple of centuries. However, from the late nineteenth century, the combination of technical change, rising wages, weak wine prices all increased the incentives for postcontractual opportunistic behaviour on the part of the sharecropper, leading to conflicts and an undermining of the trust that had been built up over the previous centuries. Therefore, by the early 1920s the contract was often considered synonymous with "exploitation" and "impoverishment", terms frequently found in the more traditional literature on sharecropping.

Keywords: agriculture, sharecropping, viticulture.

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The "Rabassa Morta" in Catalan viticulture: the rise and decline of a long term sharecropping contract. 1670s-1920s.¹

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Until recently, most historians have dwelt on the negative affects of sharecropping in southern Europe. In France, for example sharecropping has traditionally been considered as a major cause of the stagnation of the rural economy in the seventeenth and eighteenth centuries. Neither sharecropper or landowner was supposed to have had an incentive to make productive investments, and the contract led to an increase in subsistence and a decline in commercial agriculture.² By contrast, recent work by economic and development historians has emphasized the positive characteristics of sharecropping contracts over a wide variety of historical and geographical settings.³ This new literature, instead of considering sharecropping as irrational or economically inefficient, stresses instead its contribution in reducing transaction costs for both landowner and sharecropper in the face of market imperfections. In this paper we try to explain why such diverse opinions about sharecropping can be held. We argue that although sharecropping might indeed provide a successful solution to market inefficiencies in traditional agriculture, the changing nature of the sector during modernization required significant changes in the

¹ We have benefitted from discussions with Ann Carlos, Josep Colomé, Alan Dye, Francesco Galassi, Shawn Kantor, Belen Moreno and Rich Sicotte. Earlier versions of this paper were presented at a congress on "Land, labour and tenure: the institutional arrangements of conflict and cooperation in comparative perspective" held at the University of Leicester in August 1996; at the congress on "Cambio institucional e historia económica" at the Universidad Autónoma de Barcelona in December 1996, and at a seminar at the Universidad Carlos III de Madrid. The usual disclaimers apply. Finally, the authors acknowledge funding from the Spanish government (PS94-0005).

² Désert, 1975-6, pp.440-1 and Hoffman, 1984, pp.309-10 together with the sources he cites. For the Italian literature, see especially the bibliography cited in Cohen and Galassi, 1990, p.646 footnote 2 and Zamagni, 1993, p.70 footnote 58.

³ The literature on sharecropping is immense. For a recent and easily available survey, see Otsuka, Chuma, and Hayami, 1992, pp.1965-2018.

nature of the contract. In particular, we suggest that the increase in capital inputs, and the growing opportunity cost of labour because of increased urban demand implied that unless the institutional evolved to reflect these changes, then conditions for sharecroppers were likely to decline, bringing with it the much quoted complaints of "exploitation" and "impoverishment" found in the traditional literature.

In Cataluña, in north-eastern Spain, both landowners and sharecroppers were convinced that the local sharecropping contract, the rabassa morta, had played a major role in the expansion of viticulture in the region from the late seventeenth century until the late nineteenth.⁴ The rabassa morta was unusual in that its duration was usually for the life of the vineyard, which effectively implied that the contract was indefinite. For several centuries the institution was sufficiently flexible to adapt to changing factor markets, and the wider changes taking place in society. However, we argue that from the late nineteenth century, the increasingly capital intensive nature of viticulture and the divergence of wages and wine prices increased significantly the possibilities of postcontractual opportunistic behaviour on the part of the sharecropper, and undermined the trust or social capital that had been developed over the previous centuries. Although sharecropping continued to be used, the conflicts which developed between the principal and agent in their attempts to adjust to the new situation raised transaction costs, and therefore reduced significantly the efficiency of the contract.

In conclusion, we argue that although sharecropping contracts in traditional agriculture could be surprisingly resilient, the changes that take place with the modernization of agriculture were likely to shift rapidly the rewards to one party, at the cost of the other. In particular, the growing opportunity cost of the sharecropper's labour in the face of rapid urbanization implied that unless contracts could be frequently renegotiated, there would be a significant increase in postcontractual opportunistic behaviour and criticism of the unjust nature of the contract.

⁴ This was true even at the end of the period studied here. See, for example, the editors' (Bernaldo de Quirós and Aragón Montojo) report for the Instituto de Reformas Sociales (hereafter IRS) 1923, pp.9 and 10.

The paper is divided into three sections. After a brief examination of the theory of sharecropping and its relevance to viticulture in the first section, the second section shows why the long term nature of the rabassa morta contract was suitable to the conditions prior to the late 1880s. The final section considers both why landowners continued to use sharecropping contracts after the widespread destruction of viticulture by the disease phylloxera and why, especially after the First World War, the contracts were much less efficient in providing suitable conditions for competitive viticulture in the region.

1. Sharecropping and viticulture.

In an important paper, Klein, Crawford and Alchian argue that after a specific investment has been made and the presence of appropriable quasi rents created, the possibility of postcontractual opportunistic behaviour "is very real".⁵ Vines are highly specialized to land and, at least in part because of possibilities of opportunistic behaviour, most vineyards in the Mediterranean basin were worked by landowners using family labour, and were therefore small. Wage labour was rarely found except at harvest time, because the vast majority of wines were of poor quality and sold cheaply, which would not have compensated landowners the relatively high cost of monitoring labour inputs. Furthermore, prior to the present century, there were few economies of scale in either the production of grapes or wine. Only with a handful of wines, such as the high quality sherries, ports and clarets which, for example, sold for eight or ten times more than "ordinary" wines on the London market in the 1860s, was there an incentive for landowners to establish wine estates.⁶

The use of rental contracts would, of course, have resolved the landlord's monitoring problems by allowing tenants to enjoy in the form of increased output, all the benefits from improved cultivation. Yet rental contracts were rarely found with viticulture

⁵ Klein, Crawford and Alchian, 1996 ed., p.106.

⁶ See Pan-Montojo and Simpson, forthcoming. For example, in Jerez, the Domecq estate had 200 acres (80 hectares) of vines in 1831 (Busby, 1833, p.17); in Bordeaux, Château Margaux in 1922 had 227 acres of vines. Faith, 1991, p.51.

because of the possibilities of postcontractual opportunistic behaviour and moral hazard. In the first instance, landowners faced difficulties in determining whether a poor harvest was the result of climatic factors, or the agent's idleness.⁷ In viticulture the problem was made even more difficult than with most other crops by the frequently inverse relation between harvest size and quality. This problem is solved by the use of sharecropping contracts. Second, tenants with contracts of only a few years, would be tempted to increase output through a light pruning, an action which shortened the vine's productive life. Even with long term contracts, the landlord ran the risk of receiving back a dying vineyard once the tenant's lease expired.⁸ Only indefinite contracts would give tenants a long term economic interest in the vineyard. However, indefinite contracts, based on a fixed annual payment, were likely to lead to distributional conflicts. Future wine prices were impossible to forecast, so monetary rents were impractical. Although this problem could be solved by using a fixed, annual payment in kind, landlords ran the risk that their relative share of the harvest would decline during periods of high wine prices (tenants maximizing output - but at the cost of shortening the vineyard's life), or losing their tenants during those of falling prices (tenants considering that the rent was higher than the marginal productivity of their labour).

Indefinite, sharecropping contracts therefore promised to overcome both the problems of monitoring, and solve those of moral hazard by providing both parties with a direct interest in optimizing output over the life of the vineyard. This situation was reinforced in Cataluña, because a peculiar feature of contracts was that the rabasser (sharecropper) legally owned the vines.⁹ Therefore, although contracts required the

⁷ Bardhan, 1984, p. 161, Galassi, 1992, p.82 and Hayami and Otsuka, 1993, p.3.

⁸ On occasions, such as the approach of phylloxera, landowners might wish to maximize production even if it implied destroying the vineyard. Evidence suggests that it took about five years to exhaust the vines. IRS, 1923, p.92.
See also Roig Armengol, 1890, p.179.

⁹ Whilst emphyteusis contracts allow the tenant the possibility to sell to a third party the right to use the land (dominium utile), the rabassa morta granted ownership of the vines, but only whilst they were productive.

rabasser to cultivate the vines in accordance with the customs of the region, it was the fact that the vines were their own property which provide the best incentive for their proper care.¹⁰ This had two important benefits for the landowner, namely problems of moral hazard were significantly reduced, and monitoring was enforced through the market.¹¹ As a result, at times of high wine prices, the landowner would also benefit from the light pruning of vines and greater care provided by the rabasser. By contrast, when prices were weaker, the quantity and quality of labour inputs were likely to decline, but in such conditions the landowner would have had difficulties finding better tenants.

One potential problem for both landlords and tenants is that of contract enforcement, as not only does opportunism have to be detected, but it may have to be proved before a court of law. Designing a contract which covers all future contingencies is difficult, and recourse to litigation is often slow and expensive. Yet in many traditional societies, including eighteenth and early nineteenth century Cataluña, oral contracts were frequent. Problems of postcontractual opportunistic behaviour were controlled in Cataluña not only by dividing the ownership of the land and vines and the use of the market, but also through reputation. Residing in small villages, short term opportunism by either party would be easily identified by others and therefore affect an individual's reputation within the community.¹² So long as sharecroppers identified their economic interests as being similar to those of the landlord, and the landlord wished to attract good tenants, then reputation played an important role in the successful enforcement of long term contracts. Only from the late nineteenth century would this situation start to change, with both parties interests being increasingly directed along class lines, thereby undermining the "good will"

¹⁰ The major constraint on ownership was that the landowner had to approve the purchaser in the event of the rabasser wishing to sell and could not sublet. This is in line with Klein, Crawford and Alchian (1996ed, p.120) who argue that the "party who plants the trees or vines" also usually owns them.

¹¹ Another important factor, as we shall see, was that until the end of the nineteenth century, the rabasser kept about two thirds of the harvest.

¹² In other words, "each agent needs to evaluate the effects of his current actions on his reputational capital." Hayami and Otsuka, 1993, p.57.

necessary for the sharecropping contracts to operate efficiently, and increasing monitoring costs.

For an institution to last over several centuries, such as was the case of the rabassa morta, there was the need for considerable flexibility in the face of changing relative prices and technology. In the rest of this paper we examine more closely the workings of the rabassa morta, dividing the period into two major parts, namely from the introduction of the contract with the initial planting of the vineyards from the late seventeenth century to phylloxera in the late nineteenth century, and secondly from the replanting of the vines to the major conflicts of the 1920s.

2. Catalan viticulture in the age of expansion: 1670s-1880s.

The discriminatory taxation by Britain against French wines and spirits from the second half of the seventeenth century, and the Dutch ban on French imports with the outbreak of war between the two countries in 1672, marked the beginning of an important expansion of Catalan viticulture which lasted until the disease phylloxera devastated the region's vines in the late 1880s.¹³ Initially, exports from the region consisted mainly of spirits (aguardiente), rather than wines themselves.¹⁴ This had three important advantages: there were fewer problems of conservation, transport costs when measured by alcoholic strength were significantly reduced, and the poor quality of local wines was unimportant if they were to be subsequently transformed into spirits. The disadvantage was that producers received less for wines which were to be converted into spirits.¹⁵ Consequently, from the early nineteenth century an increasing number of producers successfully switched to the production and export of table wines, relegating only those wines of poor quality, or

¹³ For the international wine market, see especially Unwin, 1991, p.238 and Nye, 1991, pp.35-9.

¹⁴ A few luxury wines, especially Malmsey, were also produced. However, quantities were small and it is sufficient for us to consider only spirits and table wines.

¹⁵ Between 1821-35 the price of wine in San Pere de Ribes was about the same as aguardiente in Reus, in spite of the latter being around three times stronger. Colomé and Valls, 1994, p.48.

those surplus after abundant harvests, to the still. This change was significantly helped by the building of new roads, especially those linking areas of production with Barcelona and other ports, and improvements in product quality, which in general was achieved with existing technologies.¹⁶

Estimates of the area under vines in Catalunya are both scarce and unreliable. The expansion of viticulture appears to have taken place in a series of stages, with the frontier starting from the coast in the late seventeenth century and early eighteenth century, before moving inland along the valleys. The mountainous interior and poor communications implied that the process was slow, despite generally favourable wine prices. Thus the major period of expansion in Vilafranca, which is about 20 kilometres from the coast, and was the centre of the important wine area of the Penedès, took place between the second quarter of the eighteenth and the second quarter of the nineteenth century.¹⁷ By 1860, the coastal provinces of Barcelona, Tarragona and Gerona had already reached 88 per cent of their maximum extension of vines. The final important movement of the frontier, which started from the early 1850s and lasted until the mid 1880s, was driven by a combination of rising international wine prices and improvements in internal communications brought about by the railways. This time it was the inland province of Lérida which benefitted most, where the area of vines doubled from 60 thousand hectares to 120 thousand in just twenty five years.¹⁸ By the mid 1880s, and with the beginning of the devastation by phylloxera, the four Catalan provinces had around 400 thousand hectares of vines.¹⁹

¹⁶ To help conservation, wines were usually strengthened before exporting or selling in the major urban centres.

¹⁷ Moreno (1995, cuadro 1 p.177) suggests 1740 as a starting date, whilst Colomé and Valls (1994, cuadro 3 p.50) from about 1725. Barba i Roca (1991 ed., p.75) complained at the end of the eighteenth century that the production of aguardiente in Vilafranca was restricted because of the poor road between this town and its nearest port, Vilanueva.

¹⁸ Estimates of the area under vines are based on Garrabou and Pujol, 1987, pp.80-2 and Ministerio de Fomento, 1911, pp.103-20.

¹⁹ Phylloxera was first noted in the province of Gerona in 1878. It initially spread only slowly, in part because the high wine prices encouraged growers to use costly chemicals in

Much of the expansion of viticulture occurred in areas of low population density on marginal land, land which often had been used as rough pasture or woodland.²⁰ The task of land clearing and planting of vines was especially arduous, often requiring more than 250 days labour per hectare.²¹ In addition there was a wait of four years or so before a respectable harvest was forthcoming. One estimate, which does not include the expenses of any prior land clearing, gives depreciation and interest costs for planting as equivalent to 27 per cent of total annual cultivation expenditure over fifty years.²² This high figure, together with the uncertain annual incomes caused by fluctuating yields and prices, would have imposed a severe obstacle on the spread of the vine if growers had had to resort to capital markets. However, in traditional viticulture, virtually all the planting costs were for manual labour, and it was usual for landowners to plant vines during those times of the year when the opportunity cost of family labour was lowest. In Catalunya, by contrast, it was the rabasser and his family who cleared the land and planted vines, creating in the process an important capital asset for themselves. The rabasser's limited savings, and difficulties in obtaining commercial loans, were partly offset by their possibility to cultivate subsistence crops between the vines, before they came into production.

The rabassa morta contracts, required the rabasser to plant vines within a fixed period (usually between two and ten years) on the land that they had been granted, cultivate the vines in accordance with the customs of the region (us i costum de bon pagés), and to

delaying its spread. With the sharp drop in wine prices in the late 1880s, the disease spread quickly. See Iglesias, 1968 and Carnero Arbat, 1980.

²⁰ In 1730, for example, two thirds of all land under vines had previously been uncultivated in Alt Penedès, half in Alt Camp and three quarters in Bages. Valls, 1996, cuadro 4.6.

²¹ The cost of land clearing comes from Garrabou, et.al. 1992, p.47, although they fail to give a source. Tax sources for 1879 give 438 days in San Sadurní d'Anoia and 254 in L'Anoia. Colomé, 1997, p.324.

²² IRS, 1923, pp.159-63. Costs are divided almost exactly between ploughing (51.5 per cent) and labour (48.5 per cent). No figures are given for the purchase of manure or vines.

hand over the previously agreed share of the annual harvest to the owner.²³ The contracts were originally until two thirds of the vines had died, hence the Catalan name rabassa morta, meaning "dead vine". This implied that they would last for several generations although, until at least the mid nineteenth century, the contracts were effectively indefinite, for reasons we shall see.²⁴

If long term contracts and the rabasser's ownership of the vines helped solved the problems of moral hazard, the appropriate division of the harvest was crucial to the incentives that the rabasser had in maximizing output over the life of the vineyard. Although recent sharecropping literature has dwelt on the fact that the division of the harvest is frequently fixed at an arbitrary 50:50 between the sharecropper and the landowner, this was not the case in Catalunya.²⁵ Instead, there was considerable flexibility in determining the share of the annual harvest that was payable as rent. As inputs were limited almost totally to land and labour in the pre-phylloxera period, the size of the annual payment depended on the estimated labour requirements needed to plant the vines and the potential fertility of the soil. Because of the heavy use of labour in planting, and the modest yields of traditional agriculture in this region, the initial contracts frequently required the rabasser to hand over only a small share of the harvest, with between a fifth or a third being very common. As a result, the sharecropper received a significant share of the marginal product of his labour.

One of the reasons for the success of the rabassa morta before the twentieth century was the absence of economies of scale in traditional viticulture. The size of the rabasser's plots were therefore usually small. For example, in Bages, rabassers worked on average 2.2 hectares, with two thirds working less than 1.5 hectares, whilst in San Sadurní d'Anoia

²³ Giralt, 1964, pp.56-7.

²⁴ Continuity was guaranteed by the fact that under Catalan inheritance, the hereu, property passed to a single heir. (Santamaría, 1878, p.xi).

²⁵ Murrell, 1983 claims that the 50% division served as "a golden rule" of justice. See also Stiglitz, 1989, p.24, Hayami and Otsuka, 1993, pp.78. 80-1 and Otsuka, Chuma and Hayami, 1992, pp.1969 and 1977.

(Penedès), two thirds of the rabassers worked less than 2 hectares, and a third between 2 and 5 hectares.²⁶ In Gelida (Baix Llobregat) in 1862, although 96 per cent of vines belonged to owners who had more than 5 hectares, 78 per cent of all vines were actually farmed in units of less than 5 hectares²⁷. In Catalan viticulture, ploughs were comparatively rare before the late nineteenth century (making the need to own work animals unnecessary), only a few hand tools were required (pruning knives, hoes) and, until the appearance of new diseases from the 1850s, no chemicals.²⁸ The scale of production in wine making was also small, and capital requirements consequently limited, allowing most rabassers to make their own wine. The size of most fermenting vats (lagares) was around 50 hectolitres - which represented about 3 hectares, or approximately the production of a sharecropper.²⁹ As we have seen, a large part of commercial production initially was for spirits, and the local stills (olles and fassines), were cheap in construction, required a minimum of skill to operate, although the spirits they produced was of a poor quality. However, by the last third of the nineteenth century wine production was now of much greater importance, and distilling was limited to either poor wine, or surpluses after exceptional harvests.

Although landowners and rabassers successfully devised a contract which overcame most problems associated with moral hazard, monitoring and incentives, the very length of the contract was a potential problem, as social and economic conditions of the region, not to mention the nature of viticulture changed. Three areas of potential conflicts can be

²⁶ Ferrer, 1987, p.260 and Costa i Via, 1993, p.332. Valls (1996, p.168) gives an average of 2 hectares in L'Anoia for the eighteenth century.

²⁷ Calculated from Colomé, 1997, pp.315 and 550.

²⁸ JCA, 1891, p.xxxi and Roig Armengol, 1890, pp.178 and 179. For the use of ploughs in viticulture, see Simpson, forthcoming.

²⁹ According to Ferrer, 1987, pp.162-3 most vats were between 30 and 100 hectolitres in Bages region in 1860, the equivalent to the production of about 1.5 to 6 hectares. Roig Armengol, 1890, p.215, writing of the same area noted that, "the supply of wine is found in the hands of hundreds of small growers, and those cellars with between a thousand or two thousand hectolitres, are considered as extraordinary",

identified: changes in civil law, movements in relative prices and the allocation of new costs arising out of changes in taxation or cultivation requirements. We shall examine each in turn.

One difficulty was the interpretation of the length of the contract itself. As we have seen, the traditional rabassa morta contracts were suppose to remain in operation until two thirds of the vines had died. However, unless hit by disease, vines were unlikely to die altogether, and it was in neither parties interest to see harvests declining slowly because dead, or dying, plants were not being replaced. Furthermore, the clause that the rabasser should follow the "good farming practices" of the region, was widely interpreted to imply that they should replant a dead or dying vine by trailing shoots from a neighboring plant. Once this had taken root, it would be detached from the mother plant. Therefore, until the disease phylloxera made its appearance in the region in the 1880s, the vineyard's life was often considered indefinite.

Some contemporaries claimed that by allowing sharecroppers to replant, the rabassa morta was little different from other contracts, such as the foro in Galicia, implying that ownership of the dominium utile was in the hands of the tenant, who simply had to pay an annual rent (censo). The attempts at stricter legal definition of land ownership in the eighteenth century made owners take more serious the question of the vineyard's natural life, and in 1765 the Real Audiencia de Cataluña made the replanting dead vines illegal.³⁰ However, it was not in the land owners' interest to receive back a dying vineyard and consequently their angle of attack changed, and in 1778 the Real Audience of Cataluña declared that replanting could take place, but the life of the vineyard was to be taken as 50 years. Fifteen years later, in 1793, the Council of Castilla ruled that the life of the vineyard could not be taken as an arbitrary 50 years, and so the question was left open once again.³¹ The potential problem of land ownership appeared again in 1873, when a new civil code

³⁰ The Council of Castile in 1763 had prohibited the expulsion of tenants (foreros) in Galicia, but it was not until 1926 that they were given the legal right to purchase the land without the permission of landlords. See Villares, 1982, p.260.

³¹ Balcells, 1980, pp.41-43.

identified the rabassa morta, along with other contracts such as the foro, as being perpetual and gave the sharecropper the legal right to purchase the land if they so wished. However, the law was quickly revoked, and the new civil code of 1889 identified the length of the contract as being fifty years, unless some other fixed term had been established between the two parties. The rapid destruction of vines by phylloxera would make this new decision irrelevant.

Once possible source of information on how this changing legal scenario affected landowners might be found in modification of the contracts themselves. However the behaviour of landowners and rabassers were also influenced by movements in wine prices and labour costs (Graphs 1 and 2).³² Conditions for production appear to have especially favourable in the period 1690-1740 and 1840-1885, with the wine:wheat ratio moving above the long term trend. By contrast, conditions seem to have worsened at the end of the eighteenth and beginning of the nineteenth centuries. This fact, together with the legal questions outlined above, perhaps help explain two changes in the rabassa morta contracts.

In the first instance, the legal disputes of the late eighteenth century might be expected to have encouraged landowners to have specified in the contracts an exact number of years, rather than the vague concept of waiting until two thirds of the vines had died. Yet the legal rulings do not seem to have had an immediate effect. A notary in the Penedès district still drew up some 90 per cent of the new contracts by the natural life of the vines in the 1820s, although by the 1850s the figure had fallen to 55 per cent, and by the 1880s there were none.³³ The explanation of this delay can perhaps be traced to movements in commodity prices, with the weakness in wine and spirit prices from the late 1810s to the

³² It should be noted that information comes from commercial centres and that, especially prior to the railways, many farmers in other areas of Catalunya might face a quite different set of prices. Furthermore, agricultural wages give only a very rough indication of the opportunity cost of labour, as the use of wage labour was rare outside of the harvest. Information is unavailable for the period 1805-20.

³³ Pares Goncer, 1944, pp.16-9. An important problem with using written contracts as a source to measure change over time is that they sometimes simply legalized what had been previously an oral contract. See for example, the criticism of Moreno (1995) of the conclusions reached by Colomé y Valls, 1994, pp.51-2.

late 1840s making it difficult for farmers to attract new sharecroppers. There was also a small, but clear increase in the share of the harvest that new sharecroppers had to pay to the landowner during the period 1850-85 compared to 1800-45 (Graph 3). This might be caused by either landlords taking advantage of the healthier wine prices that producers enjoyed, or their need to offset new costs. The first appearance of oidium (powdery mildew) in the region in 1852 implied that sharecroppers had to spray sulphur during most years, which was assessed as 15 per cent of production costs by the tax authorities in 1863.³⁴ Another new cost was the land tax of 1845, which in the Bages and Penedès was considered the landowner's legal responsibility, although with the rabassers contributing a part to the landowner; in Pla del Llobregat, the situation was reversed.³⁵

In more general terms, if the rabasser could end the contract by selling their vines, the landowner could only recover full possession of the land if the rabasser failed to comply with the conditions stipulated in the contract. Yet the comparative advantage that catalan farmers enjoyed in viticulture before the twentieth century implied that this was rarely a problem for landowners, and there appear to have been few attempts to evict tenants for inefficient cultivation. In part, this might be because of the legal cost,³⁶ but at times of high wine prices, such as in the 1870s, both rabasser's and landowners' interests coincided in the need to maximize output from the land. By contrast, when prices were weak such as at the beginning of the twentieth century, or when the supply of family labour was considered by the rabasser as excessive for the area of land, there was an incentive for the rabasser to look for off-farm employment, for at least part of the time. Outside the harvest, wage labour was rare in Catalan farming, but if the landowner worked some of his own land, then skilled labour was required for such tasks as pruning.³⁷ However, of

³⁴ Giralt, 1990, 2, p.230.

³⁵ Ibid., pp.153-4. However, the rabasser benefitted from the abolishing of various taxes of the Ancien Regime, such as the tithe (1841).

³⁶ Santamaría, 1878, p.123.

³⁷ If the landowner also farmed some of his own land, then they might reward efficient rabassers by making them temporary managers (masovers) of their own estates. Aguiló y

greater importance in regions such as Bages or L'Anoia, were the employment opportunities found in rural industry. By contrast, for the landlord, a period of low wine prices together with the low opportunity cost of the land implied that there would have had difficulty in replacing sharecroppers.

3. Sharecropping and conflicts, 1890s-1920s.

The external shocks that both parties faced during our first period were comparatively mild compared to those that appeared from the last few years of the nineteenth century. First, wine production in Catalunya fell significantly because of phylloxera, a disease which would in time destroy virtually all of Europe's vines. The only effective long-term solution was the uprooting of the dead vines, the planting with American phylloxera resistant plants, which were then grafted with European varieties. As French vineyards suffered first, this remedy was already known in Catalunya, and the technical problem was therefore limited to one of adaptation, namely determining which hybrids were most suited to local conditions, and to instructing growers on the new cultivation techniques required. A second problem was that wine prices, which had doubled between 1869/71 and 1884/86 as a result of France's heavy imports to make up the shortfall in its domestic production, started to decline from the late 1880s, just as phylloxera began to devastate Catalunya's own vines. From the early twentieth century, the widespread replanting of vines throughout Europe, the increase in output in new wine producing countries such as Algeria, and a slowing in national and international demand, all contributed to keep wine prices depressed.³⁸

Cortés (1897, pp.93-5) mentions these contracts for 3 years, although sometimes they were longer. These contracts could not be inherited. Ferrer, 1987, p.478.

³⁸ In the case of France, for example, per capita consumption peaked in 1926. Pech, 1975, pp.98-9 and 192.

In Cataluña, three problems had now to be overcome, namely the replanting of the dead or dying vines, the need to adapt to lower wine prices and lastly, peculiar to our region, the need for landowners to decide whether to renegotiate contracts with their sharecroppers as phylloxera, which had destroyed the vines, brought to an end the old ones. In Barcelona, perhaps the province where the rabassa morta had greatest importance, the area under vines fell from 132 thousand hectares in 1889 to less than 36 thousand in 1898, before replanting allowed a recovery to 115 thousand hectares by 1906, a figure which was maintained until the Civil War.³⁹ In general, most landowners continued to use sharecropping contracts after phylloxera, rather than resorting to direct cultivation, despite the fact that in France's Midi, technological change was reducing monitoring costs, allowing an increase in the scale of viticulture and the use of wage labour.⁴⁰ Furthermore, if sharecropping had been considered as the key to the initial expansion of viticulture and the regional prosperity prior to phylloxera, it was now often seen as a major source of conflict.⁴¹ The rest of the paper considers how this change came about.

One possibility is that new contracts were signed, not because sharecropping was now considered to be the most efficient form to work the land, but rather as a compromise, because neither party could rid themselves of the other. In this case, even though the landowners would have preferred direct cultivation using wage labour, the costs of establishing, hectare by hectare, legal rights to the land and evict the rabassers was considered excessive; likewise, although the rabassers believed that the land belonged both morally and legally to them after they had cultivated it for so long, they realized that it would difficult and expensive to have this fact established by a court of law. A

³⁹ By 1935 the figure was 121 thousand hectares. The pre-phylloxera figure is given in Ministerio de Fomento, 1911, p. 106 and the journal, Los vinos y los aceites, 1891, pp.278-9. Post-phylloxera figures from GEHR, 1991, p.278.

⁴⁰ The evidence of a switch to direct cultivation was rare. An exception was Raventós who increased the area after phylloxera to 100 hectares in 1907, and used 36 full time workers, with a further 260 at the harvest. Raventós, 1910, p.61.

⁴¹ The Instituto de Reformas Sociales (IRS) was given the task to investigate these conflicts, and reported in 1923.

compromise therefore suggests a path dependent argument, in which an inefficient institution was continued, because to establish an alternative would have involved excessive transaction costs. This hypothesis is difficult to test, but neither wine prices nor labour costs were moving in a favourable direction to encourage landowners to turn to direct cultivation. Graph 4 shows that in the departement of Herault in France's Midi, most replanting took place in a climate of high wine prices, and Postel-Vinay has drawn attention to the importance of bank loans in encouraging this process, especially for large estates.⁴² Therefore if growers in Barcelona could take advantage of the technical advances from southern France because phylloxera had struck earlier, they suffered in turn because their own replanting occurred after prices had collapsed (Graph 5). Little is known of Cataluña's credit markets at this time but, especially after the 1891 commercial treaty limited Spain's export possibilities with France, banks are likely to have been wary in lending excessively to replant the region's vines. Once again, landowners therefore turned to the sharecropping to offset, at least partially, the costly investments needed for clearing the land of the old vines, and planting new ones. Likewise, sharecroppers saw new contracts as the best way both of replacing the capital that they had lost with phylloxera, and sharing the greater risks associated with the new vines. Therefore, the evidence does not suggest that landlords seriously contemplated alternatives, or that sharecroppers were unhappy with renewing new contracts, at least in the initial period after phylloxera.⁴³

⁴² Postel-Vinay, 1989, pp.162-72. Replanting in the Midi took place on the deeper, fertile soils of the plains rather than the stony soils of the hills. The move to the plains required the draining of marshes, which "could only be tackled by large-scale landowners or limited companies with sufficient funds for the organization of drainage and irrigation" (de Planhol, 1994, p.350).

⁴³ For example in the 1890s, the landowner's journal, the Revista del Instituto Agrícola Catalán de San Isidro dedicated very few articles to the problems associated with contracts, but numerous ones on replanting techniques, problems of grafting, etc.. This was also the case in the congresses held in San Sadurní d'Anoia (1898) and Reus (1899). Likewise, during the difficult interwar years, rabassers in the important wine producing region of the Panedès spoke highly of the traditional rabassa morta contracts, but claimed that the landowners had "destroyed" it, in prejudicial to all parties". IRS, 1923, p.29.

If sharecropping contracts continued to be used, there were legal changes. The 1889 civil code encouraged landowners to use another sharecropping contract (arrendamiento a partes de frutos), rather than the traditional rabassa morta, as conditions for possible eviction of tenants in breach of contract were considered easier. However, to all intents and purposes, the contracts remained the same in all but name, and even then, most contemporaries still referred to the new contracts as "rabassa morta". The vines were usually planted by the sharecropper, eviction could only take place when some term of the contract had been broken, compensation had to be paid unless the tenant was evicted, and the sharecropper remained the legal owner of the vines that he had planted.⁴⁴ Whereas it is true that many of the new contracts were now shorter, their duration was still usually longer than the life of the post-phylloxera vines, thereby preserving the spirit of the "rabassa morta".⁴⁵ The problems associated with sharecropping in Catalunya after 1889 were not caused by the changes in the civil code, but rather they resulted from a marked increase in the incentives for postcontractual opportunistic behaviour on the part of the tenant. We shall consider two areas why this took place, namely changes in the nature of viticulture, and movements in relative prices.

Traditional viticulture used, as we have seen, primarily inputs of land and labour. With the rabassa morta, the sharecropper provided the labour and the landlord the land, with the harvest divided between the two on the basis of their valuation of their respective contributions. The vines were the property of the rabasser. Phylloxera therefore destroyed both the rabasser's capital and future income. In contrast to when the original vines were planted, technology by the late nineteenth century was beginning to provide an alternative

⁴⁴ As we shall see, a number of landowners would now plant vines themselves, in which case the sharecropper was not the owner. For compensation, see IRS, 1923, pp.42, 89-90, 112 and 192. The impact of these legal changes are dealt with in detail in Carmona and Simpson, in preparation.

⁴⁵ Average contracts were now for between 30 and 50 years. The life of the post-phylloxera vines was only 20-5 years, against 50 or 60 years for the pre-phylloxera vines. Balcells, 1980, p.69 and 68. There was now an additional problem in that, neither landowner or sharecropper knew how long the new vines would live.

to some of the heavy inputs of labour. Specialized machinery now existed which could remove the dead plants, and ploughs (Vernette) drawn by winches, worked the soil to a depth of half a metre, to help prepare the land for replanting. Although there appears to have been a rapid growth in the presence of deep ploughs in Cataluña just in the period when vineyards needed replanting, one observer noted that "most of the land is worked by sharecroppers whose only capital is their labour and yet, without instruments to cultivate deeply, they are capable of creating a vineyard with american vines". However, deeper ploughing was considered essential if vine yields were to be increased significantly.⁴⁶ Therefore growers who replanted using labour intensive systems, suffered lower yields to those who had the capital to rent the new machinery. Vines now also had to be purchased from nurseries, rather than taken from a neighbouring plant. Finally, the post-phylloxera vines were much more susceptible to disease, requiring expenditure on chemicals, especially sulphur for oidium and cooper salts or "Bordeaux mixture" for mildew. By the 1920s, chemicals and their spraying represented almost a fifth of annual cultivation costs (Table 1). Therefore at the precise moment when the sharecropper's capital was destroyed by disease, he was required to provide a significant investment if the contract was to be renewed under the same terms to those that he had enjoyed prior to phylloxera. Many sharecroppers did not have sufficient resources, and instead part or all of the investments was provided by the landlord. Furthermore the choice of suitable vine stock was complicated, and some landlords found themselves drawn into a more active management of the vineyard than they had been accustomed to in the past. As a result, some landowners planted the new vineyards themselves using hired machinery, and then leased them on long contracts to the sharecropper.⁴⁷ In these cases, not only did the sharecropper

⁴⁶ Rovira, in Congreso Vitícola de Reus, 1899, p.27. Rovira makes an interesting comparison between high yields and "intensive" viticulture, and low yields and less intensive viticulture which, he implies, was the model followed by most sharecroppers. As we show elsewhere (Simpson, forthcoming), it was the "high intensive" viticulture in southern France which was technological path chosen by many growers.

⁴⁷ However, in these cases the sharecropper often had to buy the vines that had been planted by the owner. See for example, Instituto Agrícola Catalan de San Isidro, 1923, pp.43-4 and 82-3.

lose control of the vines, but they were required to pass on a higher percentage of the harvest to the landowner. Even if it was the sharecropper who planted, and thus maintained the vines as his property, a higher share of the harvest was required by the landowner for his contribution to the cost of chemicals and fertilizers. Both the loss of ownership of the vines, and a smaller share of the harvest, reduced incentives for the sharecropper.

A second problem was the movement of relative prices. Although information is limited, it appears that the indefinite nature of the original rabassa morta contracts did not create major problems prior to the late nineteenth century (Graph 1). By contrast, between 1890 and 1930, wine prices fell both with respect to bread prices, and in particular with respect to wage costs (Graph 2).⁴⁸ Even as replanting was taking place, the return on unit labour inputs in viticulture was declining steeply compared to what could be earned by unskilled wage labour, both within agriculture and industry. Given the close proximity of the rapidly growing and prosperous industrial city of Barcelona, which saw its population jump from around 270 thousand in 1887 to a million in 1930, it is not surprising that sharecroppers felt that their living standards were slipping compared to other groups of workers.

The loss of ownership of the vines for some sharecroppers, a reduced share of the harvest for others, and the decline in the opportunity cost of all sharecroppers' labour, implied that incentives for postcontractual opportunistic behaviour increased significantly. The response of landowners was to identify with greater clarity in the contracts how the sharecropper was required to cultivate the vines, suggesting an important increase in monitoring costs if the vines were going to be cultivated according to the "us i costum de bon pagés". Neither was it the case that the sharecropper's loss was the landowner's gain (Table 2). The higher vine yields and the larger share of the harvest that landowners enjoyed were not sufficient in general to offset the weak wine prices of the period. Both

⁴⁸ The opportunity cost is difficult to measure, but most land which was not replanted with vines after phylloxera was abandoned to rough pasture or, on occasions, to extensive cereals or olives. See, for example, Ministerio de Fomento, 1911.

parties therefore found cause for complaint, and this provided the background for, first a decline in social capital, and then open conflict between the two groups, as we shall see below.

Another problem facing both landowner and sharecropper by the early twentieth century was that the rising cost of labour and declining real wine prices everywhere were leading to greater competition between producers. Whereas in Cataluña production remained essentially based on the family farm, in other regions, such as France's Midi region, there was an increase in the size of vineyards, with those of more than 40 hectares (producing over 2,000 hectolitres of wine) accounting for 48 per cent of the harvest by 1897-1902.⁴⁹ With the greater scale came a significant increase in investment per hectare so that, although the area under vines in the Midi was similar in the late 1920s as it had been in the early 1870s, yields had increased by two thirds.⁵⁰ To work the larger vineyards, growers in the Midi reduced significantly the monitoring problems in the use of wage labour outlined in section 1. In part this was achieved through changes in technology. Vines were increasingly hung from trellises in long lines to facilitate the use of ploughs between the lines.⁵¹ As supervisors could easily walk between the rows to check an individual's work, this allowed greater control over the speed and the quality, of cultural operations such as pruning, spraying, cultivation and harvesting. Trellises were not generally used in Cataluña, in part, because the density of vines per hectare was less than in the Midi. However phylloxera allowed a more rational planting in Cataluña too, which facilitated the greater use of ploughs and fewer problems in carrying out, and in theory of monitoring, other operations.

The real difference between these two regions would seem to lie elsewhere. In the Midi the increase in importance of large estates of over 40 hectares was accompanied by a

⁴⁹ Between 1871/2 and 1927/9 yields in the Midi increased from 37 hectolitres to 61 hectolitres. Pech, 1975, pp.142 and 149. By contrast in Barcelona, yields rose a third, from 18 hectolitres to 27 hectolitres. Table 2.

⁵⁰ Yields refer to 1871/2 and 1927/9. Pech, 1975, pp.496-8.

⁵¹ The importance of this was emphasized to us by Ann Carlos.

similar increase of those of less than 10 hectares. Skilled labour was required on the large estates, especially for pruning, and this was initially obtained from the locally resident smallholders. Patronage appears to have played an important role, with the large owners lending equipment and the use of their wineries to small vintners in return for labor services on their estates after phylloxera.⁵² In this case the demand for skilled labour on the estates, and the excess supply on the small farms reinforced each other. Monitoring costs were kept low by both the greater ease in measuring work quality, and the fact that small growers were interested in being recruited from one year to the next for seasonal work. Improved monitoring allowed labour to be increasingly recruited from outside the village - including from Spain.⁵³ Frader notes the appearance of gang labour (colles), which consisted of 10 to 15 skilled vinedressers, who contracted for employment, and which had the advantage in that both organization and monitoring was effectively subcontracted.⁵⁴ Behind this success in controlling monitors costs, was the capacity of large producers in identifying their own economic problems, with those of the whole region, a feature which was in direct contrast to that in Cataluña.

The declining share of the harvest that the sharecropper received after phylloxera in Cataluña, and the growing opportunity cost of the labour, reduced incentives to work the vines carefully, especially in the interwar period (see Table 1). This was a period of both rapid industrialization and growing nationalism in Catalan society, and this helped turn what was essentially an economic problem of low prices, into a political one of landownership. In complete contrast with France's Midi, where the problems of low wine prices in the early 1900s helped cement the interests of the large estate owners (propriétaires) with the small growers (cultivateurs), and led to the founding of a pressure group for the sector, Confédération générale des vignerons du Midi, in Cataluña low prices divided landowners and sharecroppers into two conflicting political groups.⁵⁵ Here

⁵² Frader, 1991, p.36.

⁵³ Smith, 1975, p.371.

⁵⁴ Frader, 1991, pp.75 and 92.

⁵⁵ For the Midi, see especially Smith, 1975 and 1978.

landowners, through organizations such as the Federación Agrícola Catalana-Balear or the Instituto Agrícola Catalán de San Isidro, lobbied the government for reduced land taxes or a fiscal solution to low wine prices, while their congresses limited themselves to discussion on to the technical problems related to the planting of the new american vines, By contrast, whereas the legal grounds for most sharecroppers to full membership of their property was small, the growing conflicts with Catalan society encouraged the rabassers to look for a distributional solution - namely the full ownership of the land, rather than a sectorial one - incentives to limit wine fraud, reduced taxation, etc., as was the case with small growers in France.⁵⁶ This polarization of Catalan society inevitably had important consequences for the efficiency of sharecropping and greatly encouraged opportunistic behavior on the part of the sharecropper. Crucially, growers in the Midi appear to have been more successful than their counterparts in Cataluña, both in increasing yields significantly through the use of more and better inputs, while at the same time overcoming the traditional problems associated with monitoring.

Conclusion.

In this paper we have argued that the rabassa morta contract for centuries successfully balanced the need to provide incentives to the sharecropper, while at the same time allow the landowner to participate in the fluctuating fortunes of the local wine economy. These conditions were met, in general from the late seventeenth to the late nineteenth centuries. With the development of a more capital intensive viticulture, which increasingly provided opportunities to achieve economies of scale, and the more demanding nature of the new vines after phylloxera, these favourable conditions began to be eroded. First, the share of the harvest that growers received declined, which reduced their incentives in the cultivation of the vine. At the same time, wine prices in real terms

⁵⁶ The Unió de Rabassaires de Catalunya's program in 1923 contained no point which was not related to redistribution of power or income to them from the landlord. Quoted in Balcells, 1980, pp.383-4. The only area where landowners and sharecroppers joined forces was in a few wine cooperatives and, even then, several localities ended up having two cooperatives, one for the landowners and one for sharecroppers.

decline, and real wages soared, which increased the opportunity cost of sharecroppers labour. By 1930/4 wages of an unskilled agricultural male labourer in the Penedès were the equivalent to four times the quantity of wine that he would have earned in 1880/4; yields, by contrast, had increased by only a third.⁵⁷ But a decline in their relative position was not the only cause of the increasing conflicts between sharecroppers and landowners. Wider changes in the Spanish, and in particular, the Catalan society, led to a radicalization of politics, and the claim by sharecroppers for full ownership of the land. In such a climate the level of social capital declined significantly, increasing problems of monitoring and moral hazard for the owner. Sharecropping was no longer considered as an efficient contract, but rather as exploitative and unjust.

⁵⁷ Sources as Graph 2 and Table 2.

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Table 1
Cultivation costs in Cataluña (Tarragona)

pre-phylloxera, annual cultivation costs		
	pesetas	%
land	36,50	21,41
planting costs: interest & depreciation	43,95	25,78
ploughing & hoeing	61,50	36,07
pruning	7,50	4,40
harvesting & transport	13,75	8,06
taxes	7,30	4,28
	170,50	100,00
1900, annual cultivation costs		
land	65,00	15,85
planting costs: interest & depreciation	112,15	27,34
ploughing & hoeing	118,00	28,77
pruning	19,50	4,75
chemicals	60,00	14,63
harvesting & transport	26,50	6,46
taxes	9,00	2,19
	410,15	100,00
1921, annual cultivation costs		
land	75,00	10,65
planting costs: interest & depreciation	183,92	26,12
ploughing & hoeing	214,90	30,52
pruning	41,00	5,82
chemicals	128,74	18,28
harvesting & transport	46,00	6,53
taxes	14,60	2,07
	704,16	100,00

Sources: Instituto de Reformas Sociales (1923), pp. 161-174.

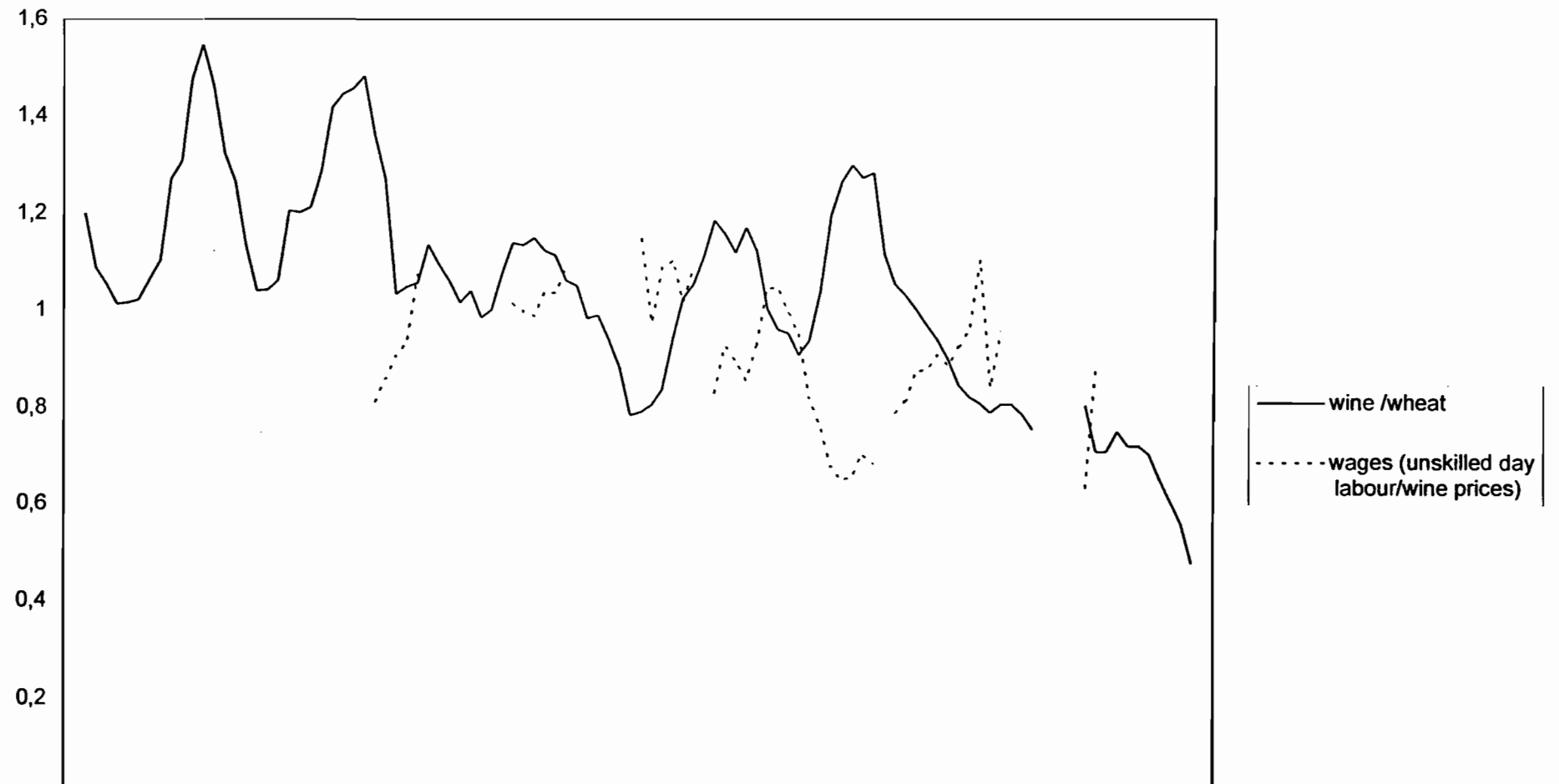
Table 2
Wine production per hectare.

	wine yields (hls per hectare)	wine prices (pesetas per hl.)	output per hectare (pesetas)
1876-80	18,0	28,1	505,1
1881-85	18,0	41,1	739,8
1886-90	17,5	32,6	572,3
1891-95		21,0	
1896-00		22,4	
1901-05	26,7	21,3	570,0
1906-10	16,2	15,9	254,1
1911-15	20,2	26,9	464,6
1916-20	41,9	21,6	889,7
1921-25	33,9	14,3	487,0
1926-30	27,8	18,2	516,0
1931-35	23,8	15,1	362,6

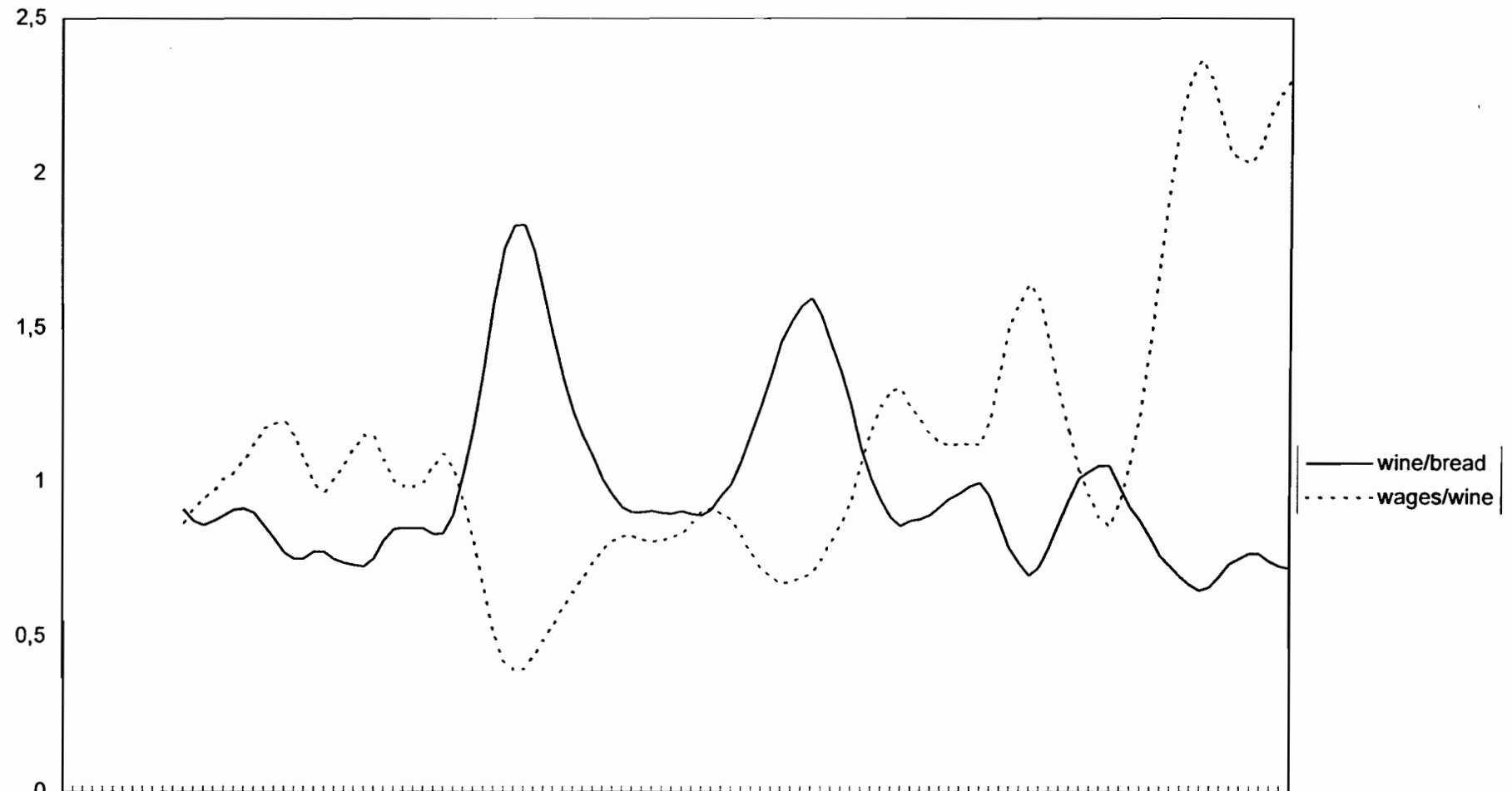
Sources:

Yields: Simpson, 1985, pp.368-9; we take yields between 1876 and 1888 as 18hls.;
Prices: Balcells, 1980, pp.377-8. Deflated by Maluquer de Motes, 1989, cuadros 12-11, 11-12 and 12-16.

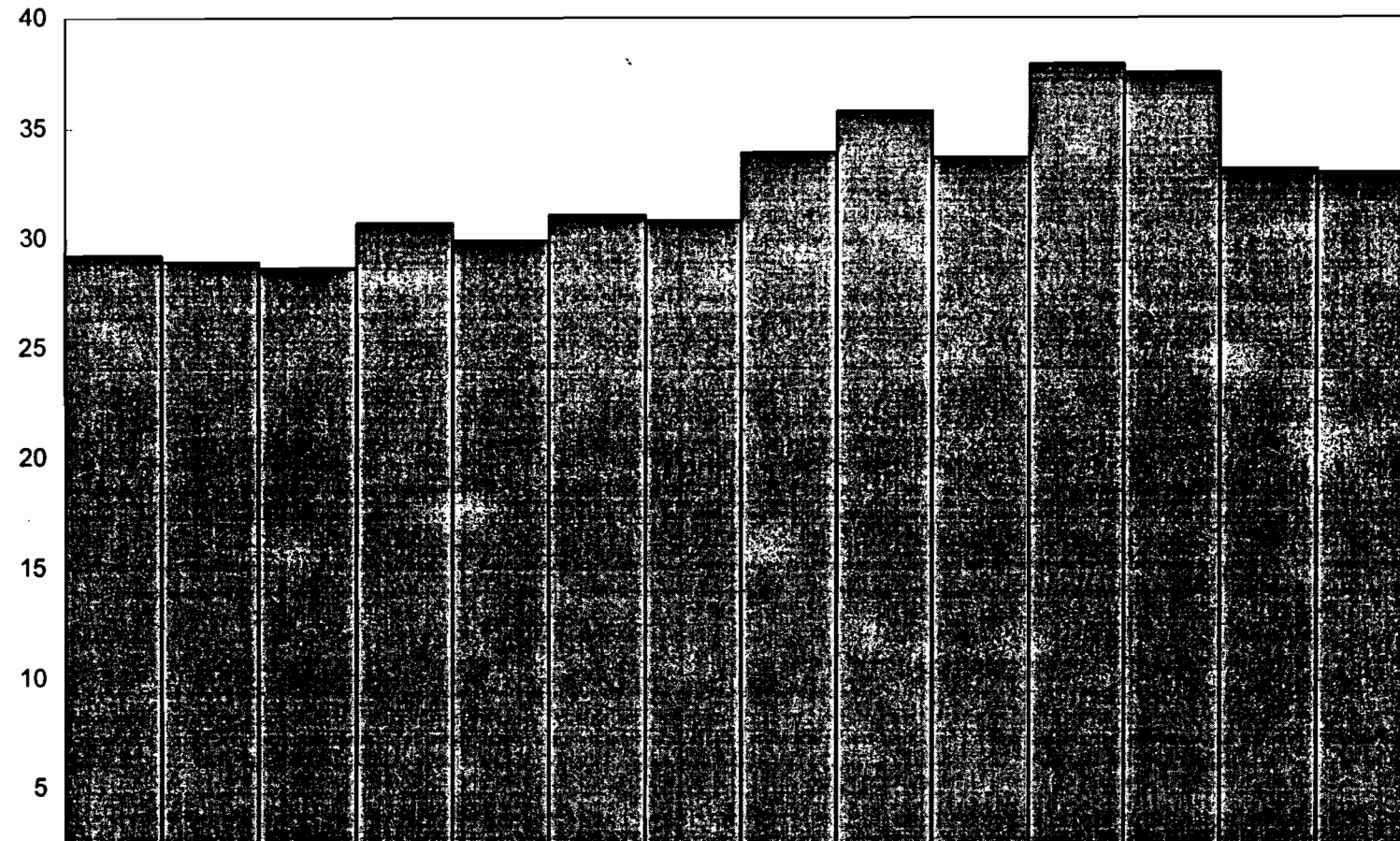
Graph 1
Trends in wine prices and wages in Barcelona, 1700-1805



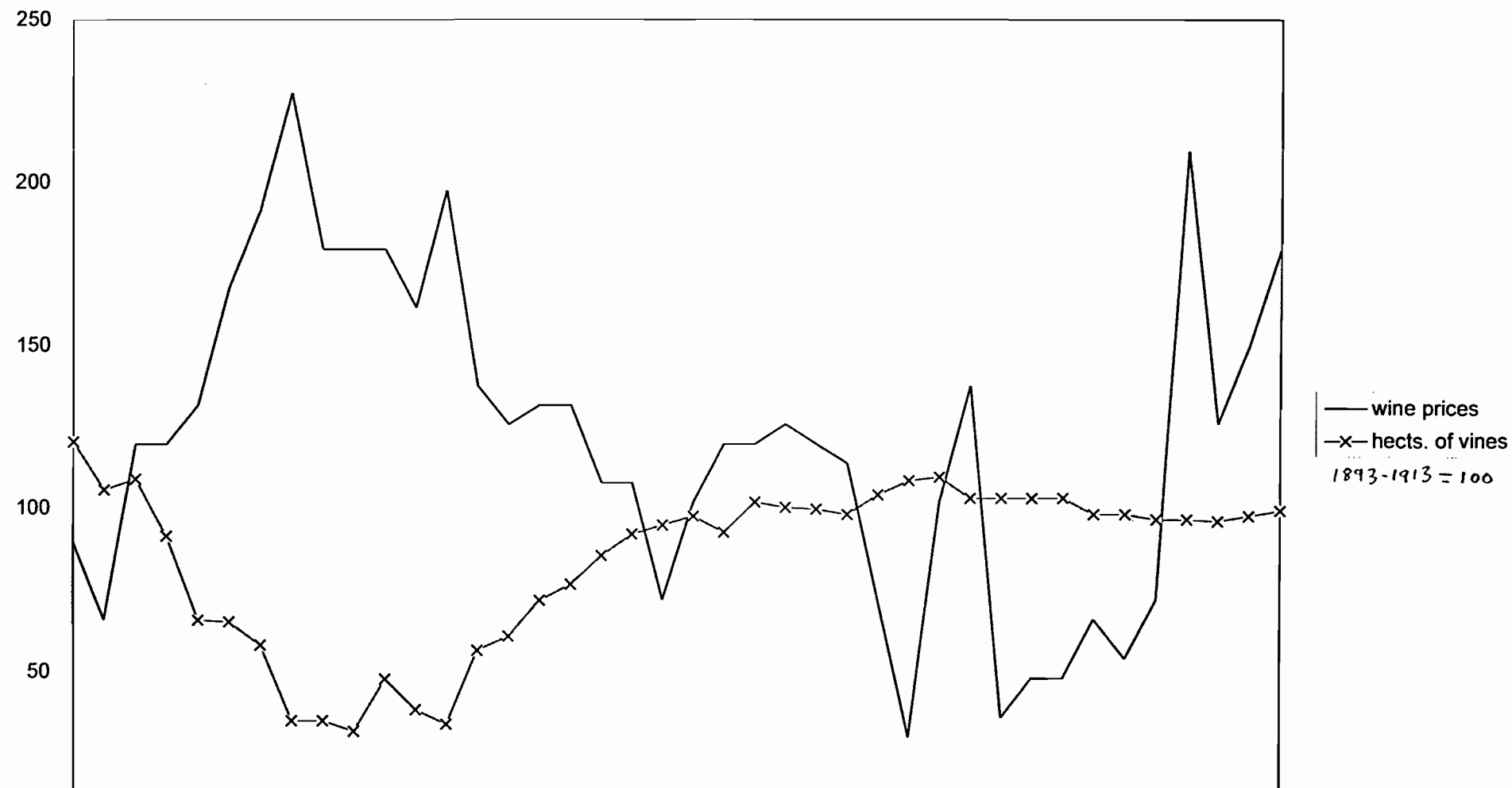
Graph 2
Trends in wine prices and wages in Barcelona, 1820-1933



Graph 3
Trend in the share of the Harvest paid by the "rabassers". Alt Penedès, 1815-1880.



Graph 4
Wine prices and area of vines. Hérault, 1874-1913



Graph 5
Wine prices and area of vines. Barcelona, 1874-1913.

